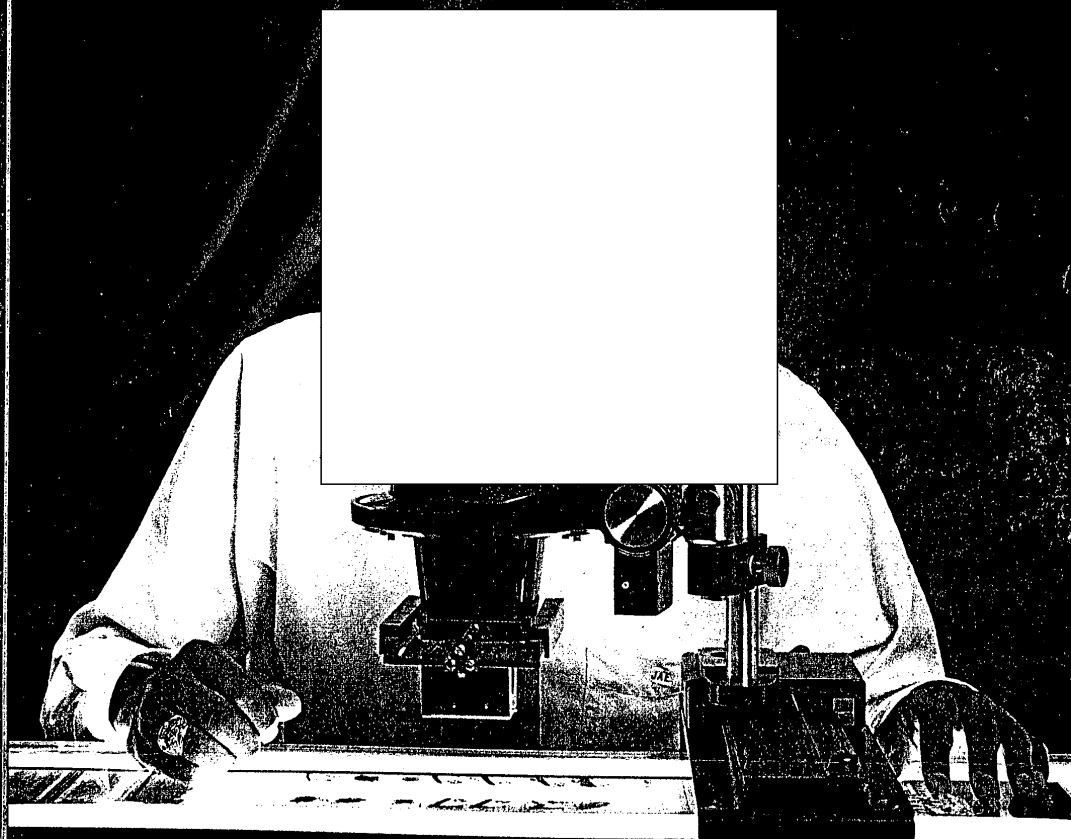


THIRTY

AND THRIVING

"Discoveries are made by some individual who has freed himself from a way of thinking that is held by friends and associates who may be more intelligent, better educated, [and] better disciplined, but who have not mastered the art of a fresh, clean look at the old, old, knowledge."

*-Dr. Edwin H. Land
Eminent Photo Scientist*



We dedicate this publication to the men and women of NPIC—both past and present—who have devoted their lives' work to mastering the art of the "fresh look." As we celebrate 30 years of achievement, we look forward to new ventures and new discoveries.

National Photographic Interpretation Center

December 1991

and 30th anniversary

Central Intelligence Agency



Washington, D.C. 20505

18 November 1991

TO THE MEN AND WOMEN OF NPIC:

For the past three decades, NPIC has been a vital part of the Intelligence Community, and, since 1973, a valued office of the Directorate of Science and Technology. During those years, NPIC employees and "alumni" have distinguished themselves as an organization of great vision, broad intellect, and spirited innovation.

Often, when we think of an organization like NPIC, we think in terms of technology. Indeed, today NPIC can boast of some of the most advanced technological tools in the world, tools that allow you to receive, interpret, and report upon imagery-derived findings more efficiently than ever before. But the true measure of an organization does not reside with tools or technology; it resides with individuals. Each member of the NPIC team is a valuable resource; through your efforts, the DS&T and the CIA have met many critical challenges in the past. With your continued energy and enthusiasm, we will meet the tests of the future.

I congratulate each of you for your contributions, and I offer my best wishes for continued successes.

Sincerely,


James V. Hirsch
Deputy Director for Science
and Technology

These and other letters of congratulations will be on display in the Lundahl Room during Open House.

We have assembled this special publication to commemorate NPIC's 30th anniversary. We ask that it not be disseminated beyond NPIC employees and their immediate families.



NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

20 November 1991

TO THE MEN AND WOMEN OF NPIC:

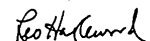
It is a distinct pleasure for me to join with you in commemorating the thirtieth anniversary of the founding of the National Photographic Interpretation Center.

Before coming to NPIC, I was well aware of the Center's long history of significant contributions to our nation's intelligence effort. What has struck me most since my arrival in February 1991, however, is the camaraderie and teamwork displayed by all members of the NPIC community. The men and women of NPIC are truly a community of professionals who share common concerns and interests and who take great pride in their many accomplishments. This professional pride is clearly reflected in the quality of our products and in our responsiveness to the Center's many customers.

Anniversaries are often limited to recollections of past glories. I believe that even as we reflect on our many past achievements—ranging from the Cuban missile crisis through Operations Desert Shield and Desert Storm—we must also look to the future. The competition with the Soviet Union that has dominated US national security policy since World War II is being replaced by a new—and still largely undefined—set of policy problems. We must adapt to this changing policy agenda by providing accurate and timely intelligence that will help our customers—all-source analysts, military commanders, and policymakers—understand rapidly moving events. Given the skill, motivation, and dedication of the NPIC workforce, I am confident that the Center will successfully meet the many and varied intelligence challenges of the future.

I am honored to be part of this extraordinary organization, and I want to thank each of you for your unique and continuing contribution to our mission.

Sincerely,


Leo Hazlewood
Director

IMAGERY ANALYSIS IS A PROCESS OF DISCOVERY. It is the art of obtaining knowledge through search, through study, and through observation. But discovery is not smooth and systematic. It is filled with peaks and valleys; it is subject to false turns and miraculous findings.

The history of NPIC is, in many respects, like the process of discovery. If NPIC's development from 1961 to the present was tracked on a timeline, that line would not be a straightly drawn continuum. Instead, the line would bend and curve, growing more pronounced with the passage of time.

This year, NPIC celebrates the 30th anniversary of National Security Council Intelligence Directive (NSCID) 8, our founding charter. This occasion presents a unique opportunity to follow the NPIC timeline, as it moves past decades and dilemmas on its way to the future. The journey provides some breathtaking images.

We begin at the "official" beginning: 1961.*

The 1960s: Cold War Concerns

The new decade started on a note that was at once hopeful and ominous. John F. Kennedy had been elected President of the United States (the youngest man ever to win that office), but the nation was reeling from the shootdown of the mysterious U-2 spy plane piloted by Gary Francis Powers. That incident exposed the entire photoreconnaissance program to international scrutiny and further ignited Cold War tensions between the US and its principal adversary, the Soviet Union.

Cold War anxieties led to the formation of a special joint-service study, led by Lyman Kirkpatrick (then CIA Inspector General), which assessed the strengths and weaknesses of the US Intelligence Community (IC). The group issued more than 20 specific recommendations, one of which called for the formation of a national interpretation center.

On 18 January 1961, just days before he was to leave office, President Eisenhower signed NSCID 8, which effectively established NPIC. The new National Center was to remain under the administrative management of the CIA, and Arthur C. Lundahl would continue on as Director, with Colonel David A. Parker, USA, serving as Deputy. NPIC, which had grown out of a small division in the CIA's Directorate of Intelligence (DI), was to be a common facility for conducting preliminary, second-, and third-phase exploitation.

Later that year, in another important IC restructuring, the Department of Defense

(DoD) formally established the Defense Intelligence Agency (DIA). Some of its personnel were assigned to NPIC and were integrated with CIA personnel.

For millions of Americans, 1962 will be remembered as the year the US and the Soviet Union almost went to war. Months of U-2 coverage of Cuba indicated a Soviet buildup of military equipment. In mid-October, NPIC photointerpreters (PIs) identified both medium- and intermediate-range missile launch sites. NPIC PIs worked around the clock to keep President Kennedy abreast of the situation. On 22 October, President Kennedy

Fresh Looks and First Images

announced a blockade of Cuba. The next day, approximately 15 ships were turned back and sea deliveries came to an end. Subsequent photointelligence indicated that medium-range missiles and bombers, along with support equipment and personnel, had been removed. NPIC's laudatory performance was recognized by President Kennedy.

On 1 January 1963, NPIC moved into Building 213 of the Washington Navy Yard. In November, President Kennedy was assassinated in Dallas, and NPIC participated in the analysis of the infamous Zapruder motion picture of the shooting.

By 1964, NPIC, like much of the nation, began to focus with greater intensity on events in Southeast Asia, particularly in the Gulf of Tonkin. By the middle of the decade, the detonation of the first atomic bomb in China and Israel's Six-Day War also commanded NPIC's attention.

NPIC PIs spent 1968 assessing rapidly unfolding international events in countries such as Vietnam, the Soviet Union, Czechoslovakia, and North Korea. Also during that year, NPIC formed a new group, the Imagery Exploitation Group (IEG), devoted to second-phase exploitation. It would grow to become NPIC's largest component.

The 1970s: Technology and Treaties

In 1971, NPIC entered the high-tech realm in several ways; among them: the first high-precision stereocomparator was installed in Building 213, allowing for more detailed measurements.

Meanwhile, NPIC continued to focus on Vietnam, Laos, and Cambodia. Arms control issues also gained prominence, specifically in regard to the Strategic Arms Limitation Treaty (SALT) of 1972.

In 1973, Arthur C. Lundahl retired in June, following 20 years of distinguished service and pioneering photointelligence efforts.

He was replaced by John J. Hicks. In the same year, NPIC left the DI to become an office in the Directorate of Science and Technology (DS&T).

Beyond organizational change, NPIC officers were faced with international change, as Salvador Allende's government was overthrown in Chile, as a Vietnam peace agreement was reached in Paris, and as the October War raged in the Middle East. After the conclusion of the Middle East war, the peace agreement remained an area of concern.

By the mid-1970s, steady increases in the quality and quantity of photointelligence required NPIC PIs to adopt new ways of doing business. Under the direction of John Hicks, NPIC officers underwent a subtle change in role, evolving from PIs who provided quick "reads" to imagery analysts (IAs) who became full participants in analytical exchanges across the Community.

The end of the Vietnam War generated national concern over the status of prisoners of war and those missing in action; at NPIC, it also generated concern of a different sort. In May 1975, the US container ship Mayaguez was seized by a Cambodian gunboat in the Gulf of Siam. President Gerald R. Ford ordered aerial reconnaissance of the area, and NPIC participated fully in the exploitation. After Navy and Marine intervention, the Mayaguez was recovered.

In 1976, the year of Mao Tse-tung's death and of a catastrophic earthquake in China, NPIC itself was undergoing historic change. A cadre of analysts and support personnel were transferred to an offsite location to form the nucleus of the Priority Exploitation Group.

NPIC launched its Basic Imagery Analysis School in 1978. The first class consisted of 10 members. Now known as the National Imagery Analysis Course (or NIAC), the program has grown in scope and, in the mid-1980s, gained academic accreditation.

In June of 1978, Rutledge P. "Hap" Hazzard replaced John Hicks as Director of NPIC. The Hazzard era, like the Hicks and Lundahl

* For details on NPIC's pre-1961 history, see "Conversations With Two Former Directors," page 6.

eras before it, was marked by sweeping technological and political change. Hazzard was faced with a daunting challenge: updating NPIC's exploitation technology to accommodate new and highly advanced overhead systems. These efforts came to be known as the NPIC modernization program.

At the same time, NPIC employees were suffering from chronic floorspace inadequacies. Although a three-story addition had been planned, Hazzard recognized that it would not be large enough to house the rapidly growing computer and communications infrastructure. With the support and funding of the US Army, he approved plans to construct a six-story addition. Ground-breaking was held in 1982.

By 1979, a new acronym had been added to NPIC lexicon: INS, which stood for the Improved NPIC System. The INS represented NPIC's entry into a new frontier of computing capability.

Several ominous developments also occurred in 1979: the Shah of Iran was overthrown, Americans were held hostage in the US Embassy in Tehran, and the Soviets invaded Afghanistan. These events stood as precursors of the decade of terrorism, resurgent Muslim fundamentalism, and war that

was to follow. NPIC studied each development closely.

By decade's end, NPIC analysts also were tasked with reporting on activities related to the unratified SALT agreement.

The 1980s: New Mandates

The nation's attention—and compassion—remained focused on Tehran, where American hostages continued to be held. But exploitation resources were dispersed across the globe, as NPIC analysts assessed the conflict between Iran and Iraq and unrest in El Salvador, Poland, Angola, Chad, and Egypt—where President Anwar Sadat was assassinated in 1980.

By the early 1980s, the NPIC modernization program had become the predominant item in the DS&T budget. A new NPIC group, known as the Development Programs Group (DPG), was formed to help direct the planning. In July 1982, the Support Group was formed from what previously had been a Support Staff.

Terrorism, either in the Third World, in Central America, in Ireland, or in the Middle East dominated newspaper headlines during this time. Arms control talks, both for strategic arms and intermediate-range nuclear

forces, consumed NPIC's analytical attention. And, in 1983, NPIC appraised developments in Grenada, where US troops were deployed during Operation Urgent Fury.

In 1984, R.M. Huffstutler, a DI analyst and manager and an economist by training, became NPIC's fourth director, succeeding Hap Hazzard. Under Huffstutler's leadership, the Center experienced dramatic "growth spurts" in terms of technology and people. By June, the addition to Building 213 had been completed.

To use NPIC resources more effectively, Huffstutler divided the unwieldy Operations Support Group into two separate groups: the Exploitation Support Group, which would manage production, processing, and mensuration services; and the Operations and Engineering Group, which would manage and support computer operations.

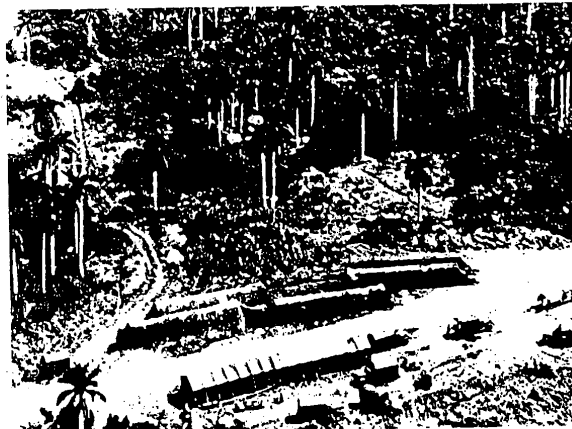
In 1986, the modernization program reached a dramatic milestone: initial switchover to a powerful new Unisys mainframe computer. Throughout the 1980s, NPIC benefited from further technological enhancements (see "The March of Technology," page 12).

While these advances continued at NPIC, terrorist attacks continued abroad, and



Amazing Journeys

The U-2 began as a rough concept in the "Skunkworks" of Lockheed Aircraft in the 1950s. Since then, it has been the workhorse of reconnaissance.



On the Brink

Overhead images of Cuba in October 1962—like this missile-ready checkout tent—have been etched into the nation's memory. These images also are an indelible part of NPIC's history.

Exploitation Artifacts

Yesterday's clunky mechanical calculators have been outstripped in speed and performance by today's high-powered computers. Yet in the mid-1960s, these desktop tools were essential for photointerpretation.

reas such as Libya and Lebanon command intelligence resources. For a period, these vents paled in comparison to the tragedy and devastation of the Chernobyl nuclear disaster. NPIC aided in Community analysis of these events.

In 1987, a new NPIC group, the National Exploitation Laboratory, was formed to serve as a community resource for developing and testing emerging exploitation technologies.

Hostilities in the Middle East and arms control negotiations continued in 1988, as M. Huffstutler was reassigned and Frank J. Ruocco took over the directorship. With the Ruocco administration came renewed emphasis on product evaluation, enhanced customer service, and career development. Late in 1988, a new NPIC component, the Imagery Studies Group, was formed. In December, Pan Am flight 103 fell from the sky over Lockerbie, Scotland—victim of a terrorist bomb.

In 1989, the year of the Tiananmen square demonstrations, the National Center was an active analytical player in Operation Just Cause in Panama, in addition to providing vigilant analysis of the Soviet Union's withdrawal from Afghanistan. Arms control continued to be big business, as NPIC sup-

ported both the strategic arms and conventional armed forces treaties. At year's end, the world watched as the Berlin Wall crumbled; in 1990, the two Germanys were reunified.

The 1990s: New World Order

As the new decade started, the National Center, like much of the federal government, began to feel the squeeze of resource reductions. In 1990, after years of growth, development, and investment, the modernization program was brought to a successful close, and DPG was disbanded.

Efforts to strengthen the working relationships between NPIC and its DoD counterparts stood the Center in good stead by the end of 1990, when Iraq's invasion of Kuwait made US military involvement in the Middle East all but inevitable. From the start, NPIC played a strong supporting role.

Frank Ruocco left NPIC in January 1991, just days after the US went to war with Iraq. When Leo Hazlewood, NPIC's sixth director, came on board in mid-February, he found the National Center operating at wartime intensity. After Desert Storm's successful conclusion, the Center received letters of commendation from President George Bush,

General Norman Schwarzkopf, and the Deputy Director of Central Intelligence Richard Kerr. Eleven NPIC components received meritorious unit citations; NPIC received a joint National Intelligence Meritorious Unit Citation, and more than 600 employees received commemorative awards.

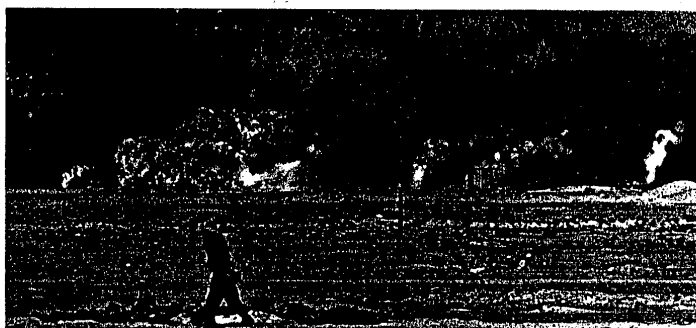
The passing year has been one of enormous global change. The new world order in the Middle East is still unclear, as is the state of the Soviet Union following an abortive coup attempt in August. The situation is equally nebulous in other parts of the world, from Eastern Europe to Haiti, from Liberia to Pakistan.

Although international developments in the coming years will be far from predictable, this much remains true: the men and women of NPIC will continue to make contributions to history. □



Fervor and Fury

During the 1970s and 1980s, Islamic fundamentalism affected many points on the globe, including South Africa, where this mass protest was held.



Burning Sands

The burning Kuwaiti oilfields serve as a malevolent backdrop to the Persian Gulf war of 1991.



The Crumbled Wall

In 1989, the world watched as the Berlin Wall fell. In the photo above, West Berliners (left) and East Berliners watch as a section at Potsdamer Platz is torn down.



The Collapsed Coup

The failed Soviet coup of 1991 brought tanks to Moscow, to the horror of the Russian people.

Conversations With Two Former Directors

Arthur C. Lundahl . . .

... Was the founding Director of the National Photographic Interpretation Center. His involvement with photointelligence dates back to his days as a graduate student in geology at the University of Chicago, where he became intrigued with the wealth of information that could be derived from aerial photography. After serving in the US Navy as a photographic intelligence officer during World War II, he left active duty and joined the Naval Photographic Intelligence Center. He came to CIA in 1953 to establish a photointelligence component and remained with NPIC until 1973.

NPIC's roots can be traced back to 1952 and an entity known as the Photo Intelligence Division (PID), which was under the former Office of Research and Reports (ORR) in the Directorate of Intelligence (DI). Can you describe those early days?

Before PID, there was no photointerpretation within CIA. I came to CIA in 1953, in response to a request by Dr. Otto Guthe, who was the associate director of ORR. Dr. Guthe asked if I would be willing to help organize a CIA photointelligence activity. This question was not entirely unexpected. From late 1951 to early 1952, I had given several guest lectures on photointelligence at CIA. But when Dr. Guthe asked me, I was a little apprehensive. I said, "Who do I have to fight when I get there?" and he said, "No one. We don't have anything established yet." Then I asked, "Well, what does CIA know about photointerpretation?" CIA agreed that it knew nothing, but that it had been impressed by strategic bombing survey reports, which showed that between 80 and 90 percent of all US strategic intelligence in World War (WW) II came from aerial photography, and that it had been very accurate.

The CIA was not a very hospitable environment in 1953. The buildings—M, P, and Q—were temporary structures, located near the Watergate. They were old and dirty. The M Building housed the DI and ORR. When I arrived, there was no place for me, no office, no equipment. In fact, I didn't even have a desk. I did have some very good people, however. As soon as Otto Guthe got my name on the dotted line, some of his former Navy associates, like Norman Beckett, Zigmund Lenchert, Alice Sheldon, J.W. Gardner, and others, had arrived to take positions within PID. We had 12 people divided into two groups: geographic and industrial.

My first job was to find a place for my people to work, get them equipped, and elbow our way into the CIA hierarchy. At the time, CIA was deeply involved in an operation in Guatemala and of course had no overhead photography, but we had handheld photography from which critical targets



Arthur C. Lundahl

*"Our youthfulness,
our excellent performance,
and our world support made a
really great impression."*

could be identified and located. Thus, there was no time to become slowly oriented, because we were called upon to produce. But I knew that things would change.

The PID eventually evolved into the Photographic Intelligence Center (PIC). How did this come about?

PIC began to take shape at end of 1954. One morning I was told that [DCI] Allen Dulles's secretary was on the phone and wanted to talk to me. This surprised me. The well-meaning lady on the other end said, "Mr. Lundahl, you're relieved of all of your duties. Report to the Director's office immediately." I left M Building eight steps at a crack and ran to Dulles's office. When I got up there, I was introduced to Dulles and Richard Bissell, who was Special Assistant for Project Control for the DCI. They pulled back a drape and showed me pictures of the proposed U-2 aircraft. I was told they wanted me to forego my other duties and commit myself full-tilt to planning U-2 aircraft missions.

But I knew that I couldn't let everything collapse behind me, because we had customers coming to the door of PID every day. So I told my deputy, Sid Stallings, that the DCI had put me on a very important assignment and that I expected him to manage the store. For all of 1955, I raced back and forth across the US; I watched the U-2 land and take off; I crawled under the aircraft with Kelly Johnson [the U-2 designer] and Dick

Bissell. Whenever I got back to Washington, I would hurry to PID and get familiar with what was going on.

I soon realized I would need many more people, so I went to the Office of Central Reference and told Dr. Jamie Andrews, the associate director, what was happening. I told him the high command wanted me to take 90 of his people and put them in my organization. Dr. Andrews, to his credit, said, "I'm sure this must be the most important project that CIA has going at this time. I will give you 90 people, and I assure you they'll be the best people I've got." And they were. That's where I picked up Dino Brugioni, Bill Banfield, Alan Mayer, and on and on. They were fine people who knew how to handle data and had long experience with library resources at CIA. ORR was to come up with some 60 people, including those I already had.

As our division got bigger, we had to have a larger working area. We were looking around for a place, a factory environment, where we could receive all the U-2 photography. We looked at a lot of different places, until finally we got hold of the Steuart Building on 5th and K Streets, NW. The automobile agency owned the lower three floors, and the upper four floors were unoccupied. CIA rented them.

Our size now was approaching office level, so I felt it would be logical to call us a photographic interpretation center. The Office of Security had some reservations about that, so I came up with the words "HT Automat." Why did we call it that? Well, I reasoned that as all the data flowed in, people would be coming in on weekends, holidays, and in the middle of the night—just like the automats in New York City where people are eating turkey dinners at 3 a.m.

Soon, I was permitted to brief the Army, Navy, and Air Force on what we were doing. I went after the Army first. I got several Army chiefs together and laid out the U-2 program. I asked if they wanted in on it. They certainly did. The Army came up with 90 people and almost \$2 million. The Navy had a more modest bid; they already had a photointerpretation center, which I had helped build, so they decided to send only a small representative group. The Air Force treated it all like a miserable dream, because reconnaissance had always been their lifeblood. The Air Force thought that if they made a commitment, they would be agreeing that CIA had a right to do this. So they only sent a couple of liaison officers over.

Continued on page 8

R. M. Huffstutler . . .

... The fourth Director of NPIC, is a career intelligence officer and current Deputy Director for Administration of CIA. A native of California, he holds both bachelor's and master's degrees in economics from the University of California at Berkeley. His initial assignment at CIA was as an economic analyst; in 1959, he was transferred to a small task force working on the "missile gap." That was his introduction to military intelligence and to photointelligence. From that time on, he served in a number of analytical and managerial roles in the Directorate of Intelligence. In 1984 he came to NPIC; in 1988, he accepted his current position.

You came to NPIC with a vision of what we, as a National Center, could be. Will you describe that vision?

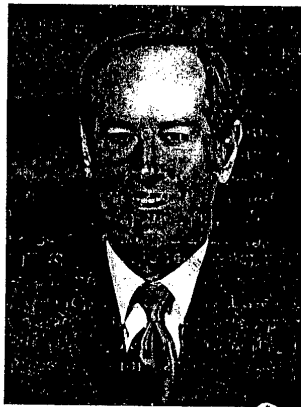
NPIC stands at the heart of the imagery business. It is wonderfully positioned to advise on customer needs, as well as exploitation opportunities, by virtue of its role as a primary intelligence producer, its wide contacts with intelligence and operational components, and its broad dealings with industry. NPIC has the talent, the depth, and the outlook to make a critical contribution to the nation's security.

How did you view NPIC prior to coming on board as Director, and what new or surprising insights did you gain while you were here?

I was familiar with NPIC, the substantive Center, arriving as I had from many years as a major customer. I was surprised and impressed by the scope and complexity of the many activities that make the substantive product possible. Tasking activities, data-base designs, mensuration support, library assets, film quality control, information dissemination, new terminal procurements, analyst training, to name a few, all had to be orchestrated to create the product. This was a daunting task. What made it fun was the enthusiasm and dedication of my colleagues at the Center.

Your tenure as Director has been considered a period of significant growth for NPIC. Indeed, several "metamorphoses" occurred under your direction; among them: the intensification of NPIC's modernization program and a hiring surge. How do you believe these events shaped the National Center?

The modernization program had a major impact on the imagery community as well as on NPIC. The modernization was so extensive, so complex, and so expensive, that no other organization had the resources or,



R. M. Huffstutler

"NPIC and imagery made arms control possible."

more important, the skilled people to deal with it. The result was that NPIC was thrust into a position of prominence and called upon to provide leadership for the entire community. Not only were regular gatherings scheduled to update community imagery managers on programmatic and technical developments, but organized efforts were made to represent their interests in design and program requirements. One of the earliest efforts was to create a light table mensuration system which could be used as an affordable, stand-alone capability for reconnaissance centers as well as large exploitation centers. Such efforts eventually led to the creation of the National Exploitation Laboratory as a service of common concern.

The explosive growth of NPIC posed different issues. When a very stable organization suddenly expands, the established, informal communications and career environment are disrupted. People become apprehensive when their expectations are jeopardized. To deal with this situation, senior managers spent almost a year designing and implementing the NPIC personnel system, the purpose of which was to help employees understand how their performance is measured, and thus, to achieve some control over their careers. Many manifestations of this effort remain, such as offsite meetings at Port Deposit, which were part of the implementation plan for the new personnel system, and the rotation program, which so far has produced two Agency office directors and a deputy from the NPIC career service.

If you were to summarize your time at NPIC, what would you cite as the one or two defining events?

The proliferation of mobile missiles and the growing arsenal of precision-guided weapons would get my vote. The mobile missile forced us to think differently about how we targeted collection, reported, integrated sources and methods, and designed data bases. The need for more flexible collection management arose in large measure from the challenges posed by this development.

The increasing reliance on precision-guided weapons necessitated more fine-grained imagery analysis. The difficulty of tracking mobile missiles, as well as the awesome potential of precision-guided weapons targeted on the basis of imagery, were demonstrated in the recent Gulf conflict.

You have been gone from NPIC for several years now. What lasting impressions remain with you? Do any of these impressions influence your work as Deputy Director for Administration?

My strongest impression of NPIC is of people who could overcome chaos and adversity to do important work. The mid-1980s was a time when Building 213 was in shambles, the neighborhood looked like Beirut, familiar ADP systems were being replaced by new hardware and software that had not been stabilized, and demands for work threatened to swamp us. I remember 1985 as an extraordinarily difficult year. Nonetheless, people rose to the challenges, and by 1986 it was clear we would succeed. This period was a lasting lesson in how much people can achieve. It is the basis for my confidence that we in the Agency will successfully manage our way through the challenges of downsizing, shrinking resources, and changing intelligence demands to emerge a vital and effective organization during the next decade.

What do you view as NPIC's major contributions to national security and to policymakers over the past 30 years?

NPIC and imagery made arms control possible. Without this high degree of confidence in the military status of a potential adversary, no agreement would have been politically achievable. Moreover, imagery has contributed in a substantially new way toward strategic stability. The many false alarms that might have initiated confrontation, the military exercises that might have been interpreted as invasions, even the invasions that were discerned to be limited might easily have sparked hostilities involving the United States had NPIC not been available to keep them in perspective. I believe NPIC can be proud of its contributions to peace as well as to the nation's security. □

Lundahl continued from page 6...

If PIC had some degree of military cooperation, why was there a need for a national photographic interpretation center?

Based on my experiences, I was committed to the idea of national photointerpretation centers. I had been in British centers, where Army, Navy and Air Force people work side by side. Even in my own Navy command in Adak in the Aleutians, we had Navy, Army, and Army Air Forces working together. We developed a technique that the majority view—the preponderance of evidence—would be the basis of the report, and minority views or contrary interpretations would be footnoted.

By 1956, we were essentially functioning like a national center but without a charter. We had groups and liaisons from Army, Navy, and Air Force, as well as standby groups from NSA and the State Department, all functioning under Automat. So I gathered them together and said, "This isn't a CIA fiefdom. This is a national activity. With each mission, a different one of you will be the mission leader." Well, Army and Navy went back to their commands and said, "You know, CIA is not fooling. They are actually running this thing like a national center." Finally, the Air Force agreed to put a representative group in the building.

In 1960 and 1961, radical things began to happen. The U-2, after four years of very successful operations, was shot down on 1 May 1960. Following the shootdown, a large intelligence panel was put together under Lyman Kirkpatrick, the number-three man at CIA. For a year, the Kirkpatrick Commission studied the whole intelligence structure of the United States and made a number of important recommendations in their final report. One was to establish a national center. That resulted in NSCID [National Security Council Intelligence Directive] 8. Now, NPIC had a charter which fully covered all we had been doing and gave us even more authority with the unified and specified commands.

What factors compelled President Eisenhower to sign NSCID 8, and why did he elect to keep NPIC under the CIA?

This is a very interesting story recorded nowhere else. When President Eisenhower was considering whether to sign NSCID 8, the Air Force questioned who should be empowered to run NPIC. A debate began at the US Intelligence Board, and the Air Force felt that this was the time to put the National Center back under the control of the military. The Army said that CIA had done a great job running NPIC and should continue to run it. The Navy agreed. The Air Force said that the Joint Chiefs of Staff should run it, with the Air Force serving as executive agent. After four abortive sessions, the question remained divided.

The problem finally was raised to the NSC. Army again said that the CIA should

continue to run it. Navy said maybe NPIC should be run by the military, and its vote disappeared. And the Air Force made its appeal again. Eisenhower, who had been listening to the debate, turned to his science adviser, Dr. George Kistiakowsky, and asked his opinion. George said, "Well, Mr. President, I've been over to the Steuart Building and I like what they do. They're young—the average age is 29; they're intelligent; and they've served me well when I've been over there. This field is so new, so esoteric, and so complex, that I'd like to see these young specialists grow and stay with it. A military officer usually cannot confine his career completely to intelligence, and we cannot have interruptions in something as important or as cumulative as photointerpretation."

"Having military and CIA personnel together was the essential element of the joint center."

Eisenhower thought about it and turned to Allen Dulles and said, "Allen, this is going to be yours. You are going to control NPIC." Allen Dulles thanked him for the honor, and to show that this was not to be a CIA fiefdom, offered the military the opportunity to provide a deputy to the Center. Another panel was convened, chaired by General Graves Erskine, a Marine Corps four-star general, to listen to the bids as to who should have the first deputy director. Army's bid was very strong. They had been in from the earliest, supported it the heaviest, and were the most vocal supporters at present. Navy had a modest bid. The Air Force bid was almost too weak to mention. Erskine decided that Army would provide the first deputy director, then it would rotate among the three services.

Our youthfulness; our excellent performance; our world support to the unified and specified commands; and the way we handled visitors and provided services had made a really great impression. That's how the folio came to us.

Why was it important that NPIC be jointly staffed by CIA and DIA?

Having military and CIA personnel together was the essential element in having a joint center. In the early days, before the sophisticated overflight programs like U-2, photography would be exploited by Air Force, Navy, and Army, and you could get completely different reports on certain subjects. It left the person at the top in a quandary over who was right in this particular instance. Well, the president didn't have time to sort these things out, so it was essential that we

sort out the views. And it was easier to do that when DIA and CIA representatives, as well as State Department and NSA representatives, were together in one building.

NPIC's first "home" was the Steuart Building. Tell us about those days.

The Steuart Building was not the finest building in the world. There was no place to eat, no place to park, no air conditioning, and our people were getting mugged on the streets even before it was fashionable. I guess the best thing you could say is that we had wonderful security cover, because I'm sure nobody would ever believe that anything of any importance to the United States could be taking place in this trashy neighborhood. But we were there, and that's where the Cuban photography arrived.

When the Navy would come to Steuart to receive its allotment of film, it would deploy a vehicle to pick up the materials and an armed detachment to block off the sidewalk. Here were sailors with machine guns standing on either side of the building entrance, as film cans and boxes were being moved out. It had the natives of the area wondering what we did. I'm sure they were convinced we were printing money, because there was nothing else in this world important enough to have earned an armed detachment.

The Cuban missile crisis of 1962 served as a defining event for NPIC. Which moments of the crisis stand out most in your mind?

This was a great period. People who had never heard of us now knew that there was such a thing as NPIC. Our popularity zoomed off the scale. Many interesting things happened during those early days to bring NPIC great credit. For example, I went with [DCI] John McCone to brief Congress as to how we discovered the sites in Cuba—how soon we discovered them, and if we could have discovered them sooner. There were some who thought we could have detected the missiles earlier, so we prepared briefing boards showing the sites near San Cristobal a few days before October 14 and a few days after. Based on these, the committees concluded that in some cases, if we had looked at the site even a few days earlier, we would have concluded there was nothing there. I chuckled to myself when Senator Stennis from Mississippi, in his inimitable Southern accent, said, "Well son, I wish we could put this whole thing in the *Congressional Record* and show how we were right on the money. And I think Mr. McCone deserves a great round of credit for being right on top of this problem." This started a whole wave of flowery speeches from other senators, each crediting Mr. McCone for a job well done.

After that briefing, I went back to the Building, and Mr. McCone followed shortly after me. The auditorium was filled with people, and I reported what had happened in

Congress. Then, Mr. McCone arrived and thanked the group for their performance and said that the NPIC materials had helped save the day. I explained to Mr. McCone that NPIC people would rather have some small role in the making of history than a seat on the 50-yard line watching it be made by someone else. That proved to be true over and over again. Some of these moments were very hard to forget because they were full of meaning and glory for so many people.

"NPIC was the place to be in those days . . . the biggest, best, and most exciting game in town."

Of course, there were embarrassing moments. I think my most embarrassing moment at NPIC occurred at the start of the Cuban missile crisis. When photography was processed, many duplicate negatives and positives had to be sent to the various commands. In October 1962, even as we were looking at the fateful pictures over San Cristobal, we had already begun distributing duplicate negatives of that same mission to a naval command in Norfolk. After we discovered the MRBM sites and briefed Kennedy, he wanted the information completely contained. Well, we were worried about the set of negatives that had already been distributed to Norfolk. So, we got the people in Norfolk on the phone and told them that the plots for the mission had to be renumbered and some processing changes had to be made. We offered to send a courier to pick up the film and to replace it with the correct material in a short time. No one was alerted or suspicious and we got the film back, and I could truthfully tell President Kennedy that all the materials were in our hands. But you can imagine that I was worried for a few hours!

Shortly after the crisis, NPIC moved into a new home. How did we acquire Building 213?

When John McCone was DCI, he used to bring the President's Foreign Intelligence Advisory Board [PFIAB] over to Stuart. These gentlemen would arrive on 5th and K in a column of limousines. The streets were dirty and winos were sleeping along the curbs. The PFIAB went back to President Kennedy and said, "Mr. President, you've got to get those people out of there. They're working under foxhole conditions." So Kennedy called McCone and said, "John, what are you doing about getting those people out of the Stuart Building?" McCone was ready. "Mr. President," he said, "We are working on a new building for them in the naval gun factory, Building 213. I shall have them out of the

Stuart Building on 1 January 1963." They started working on it 1 January 1962 and spent \$17 million to redo it. True to Mr. McCone's word, we moved into the Building on 1 January 1963.

What was your reaction when you saw the finished building?

It seemed like a dream come true. Walking through the gates and seeing Building 213 in its white splendor, it almost looked like the Taj Mahal. Sure, everything wasn't perfect, but it looked like a palace to me. I was so delighted I couldn't get over it.

A few days later, Mr. McCone came to visit. He walked through the Building and was impressed. He looked at the marble walls in the lobby, and said, "Do you think that marble is a good idea?" I replied, "Yes, Mr. McCone. A painted wall has to be repainted every three or four years, but marble lasts. It's cost effective." He shook his head, smiled a bit, and said, "Well, Art, you've gone from rags to riches."

What events, both intelligence and nonintelligence related, helped shape NPIC through the years?

There were far too many to describe in detail here, but I will mention a few. For example, long before Cuba, we were quite concerned with the antecedents to the Suez crisis. We were aware of the change of deployment of French transport aircraft and of British aircraft and ships. We were convinced that an amphibious operation was being set up, and we were in the process of reporting that when the French and British joint task force landed in Egypt. That was surprising, but we at the Center were not totally unprepared.

We helped the President in connection with the bomber, missile, and megatonnage gaps. We proved in rapid succession that these gaps, as President Eisenhower would later explain, were mere myths fabricated by Premier Khrushchev.

We also developed a pretty secure feeling about where the Soviets were in their nuclear testing program, and this permitted the President to be far more forceful than he might otherwise have been. When the showdown over Cuba came, it was clear to President Kennedy that we had the preponderance of force necessary to win.

Another thing that bothered us for a long time was the so-called Caspian Sea "monster." This huge aircraft could have been a very important logistic element in war. But for many years we wrestled with the ultimate disposition of that monster.

NPIC was the place to be in those days. If you didn't have the tickets—the security clearances—to get into NPIC for a briefing, you were nothing in Washington. We were the biggest, the best, and the most exciting game in town.

As Director of NPIC, you came in contact with several presidents and many key political figures. What do you recall of them and of their views of the value of photointelligence?

Over the years, I did get to see many different leaders from many different countries and was privileged to present to them, with the blessing of the president, NPIC-prepared briefing packages. Not the deed to the whole ranch, but certain specific subjects on certain areas at certain times.

I was privileged to brief Prime Minister Macmillan of England; General DeGaulle of France; Konrad Adenauer of West Germany; Nehru of India; Chiang Kai-shek of China; Menzies of Australia, and certain Turkish leaders. All these briefings met with success. Some world leaders were slightly incredulous over what we showed them. Adenauer kept murmuring, "*Fabelhaft, fabelhaft* [fabulous, fabulous]."

"Wherever there is a big event, photography will be called for."

When Eisenhower was leaving office and wanted to make sure that President Kennedy understood the scope and the depth of our efforts, he arranged for me to brief them at the same time. Some months later, when Kennedy was President and Eisenhower was back in Washington on a visit, I was again at the White House, briefing them both on our latest accomplishments. Dwight Eisenhower not only had guts enough to start pre-hostility reconnaissance, but he kept track of it all during his administration and after he left public office. Even on his last days, when he was lying in Walter Reed Hospital, he made it known to [DCI] Richard Helms that he would like to be brought up to speed, and I briefed him at his bedside.

What advice could you offer to imagery analysts of today?

My advice to young women and men at NPIC is to study, study, study and read—whatever your specialty, read everything you can about it.

I also think that all PIs should be very familiar with geography, with weather, and with the ethnic properties of the various nations they study, because many times the cultural attributes of the land can be readily mistaken for a military threat. We had great problems in China, where they built these enormous redoubts, apparently for anchor-

Continued on page 17

Three Decades . . . Two Homes

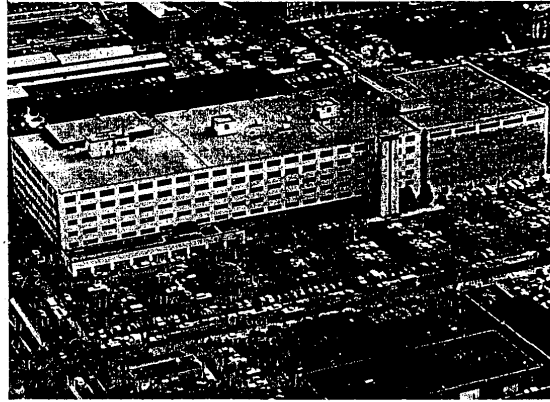
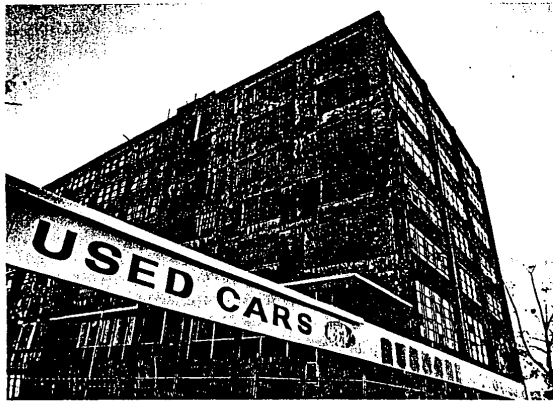
NPIC's first home was not in a government compound, but in the heart of the city: Fifth and K Streets, NW. The Photo Intelligence Division, the predecessor organization to NPIC, moved into the Steuart Motor Car Company Building in 1956 and occupied the top four floors. The bottom three floors were used by the car company and by the Steuart real estate office. The Steuart Building was not exactly Trump Tower: there was poor ventilation, no air conditioning, and no parking. The surrounding neighborhood was rough—crime ridden and impoverished—even though it was located across the street from a police station.

When NPIC moved to Building 213 on 1 January 1963, it was a definite step up in the world. In fact, the building was such an improvement that many NPICers called it "Lundahl's Palace."

Building 213 is situated in the Washington Navy Yard, an area rich with history. Shipbuilding began there in 1800, as the US moved toward impending war with France. As the Navy's home port throughout the 1800s, the area was rapidly filled with wharves, warehouses, and refineries. By the turn of the century, however, the Navy Yard had taken on more of an industrial character, evolving from shipbuilding to ordnance manufacturing. The area experienced a growth spurt between World Wars I and II.

In 1944, the Navy built Building 213 to store steel blanks for guns. By the early 1960s, all weapons production had stopped, and the Yard was divided in two. One half was retained by the Navy; the other half, of which NPIC is part, was transferred to General Services Administration on 1 October 1963.

In the years since NPIC took possession of 213, many changes and improvements have taken place. The building has been renovated from top to bottom, and in the 1980s, a six-story addition was constructed to house the rapidly growing workforce. Currently, three new guardhouses and a new perimeter fence are being constructed and the facade is being refurbished. □



Past and Present: NPIC's two homes now stand worlds apart. The Steuart Building (left) is vacant and dilapidated. Building 213 continues to be renovated, refurbished, and modified to fit the needs of the NPIC workforce.

Anchors Within NPIC

"Your office is relocating again?"

That phrase has become a standard part of NPIC conversation over the last several years, as work units relocate on an all-too-frequent basis. Almost without warning, it seems, an office moves from the first floor to the third, or the fourth, or the sixth. In the face of near-constant movement, it is nice to know that several Building 213 components have remained in the same location since 1963: the photolab, DIA, the auditorium, and the Director's office.

For the past 28 years, the photolab, part of the Exploitation Support Group (ESG), has been located on the center wing of the second floor of Building 213. It has remained in place primarily for efficiency's sake: moving the lab's chemical "tank farm" and extensive system of pipes would be far too labor and cost intensive.

Lack of movement does not imply lack of change, however. Until the early 1980s, the lab occupied 24,000 square feet of floorspace. In 1982 and 1983, the lab was remodeled to accommodate the conversion from hand processing to automated processing and to provide more floorspace for NPIC's rapidly growing computer center. As a result, the photolab lost more than 40 percent of its floorspace, ending up with its current total of 14,000 square feet. The bulky hand-processing equipment took up a great deal of space and once it was gone, the photolab became "more streamlined and efficient," according to Dave Kough, its current chief.

(As the lab was renovated and the computer center expanded, a key building move occurred: the printshop, which had been located on the second floor, was moved to the sixth floor; later, the compo-

nent was moved once again, to its current location on the first floor.)

DIA, like the photolab, has never moved from its original location. The fifth floor has been "home" to Army, Navy, and Air Force representatives since 1963.

The Building 213 auditorium, on the north end of the sixth floor, has not been relocated for obvious reasons, but in the early 1980s, it was used as temporary office space for the Imagery Exploitation Group.

The Director's office, located on the north wing of the sixth floor, also has remained in place since the beginning, although the area has been modernized and renovated from time to time. Precisely why the office has never been relocated is not known, but some speculate it is because that suite affords a panoramic view of the Capitol. □

Setting Sights on Career Development

Helping individuals develop to their fullest potential has been part of the NPIC credo for 30 years. To accomplish this, NPIC has pursued a robust program of career development—a program highlighted by the following elements:

Career Service Panels

To ensure that NPIC's personnel policies are administered equitably, NPIC adopted an innovative career service panel (CSP) system in the 1980s. NPIC currently has a Center-level panel, which is chaired by the Director and oversees Center-wide policies and personnel actions for GS-14s and -15s; panels for each of the seven NPIC groups; and three secretarial panels, chaired by NPIC's Executive Officer and by the executive secretary to the Director. The panels meet regularly to recommend promotions, assign comparative evaluation ratings, and approve reassignments, rotations, and some types of training. Recently, a minority advocate and a women's advocate were appointed as voting members to each panel.

In 1986, the basic precepts of NPIC's personnel management system were codified in both supervisors' and employees' handbooks. (A corresponding version was published for contractors.) In addition to containing basic personnel policies, the handbooks describe NPIC's career development philosophy and essential administrative information. The handbooks were revised in the late 1980s and are being revised again.

Training

Very few American colleges or universities prepare students to do the essential work of NPIC: imagery analysis. To meet the needs for specialized job-skills training, NPIC began its own "training school" in the 1970s. The premier offering was a basic imagery analysis course, which was instituted in 1978.

Little by little, the school grew in size, scope, and subject matter, and eventually evolved into a full-fledged division with a wide-ranging curriculum. The National Imagery Analysis Course (NIAC), as it is now known, remains a mainstay of the division, but has grown considerably since its "basic" days. In the mid-1980s, the course gained academic accreditation. On 13 December, the 75th NIAC class will graduate.

Other skills are developed, too. Probably the first course that any NPIC employee will take is the New Employees Orientation Course. Later, employees likely will take advantage of any of several computer courses offered in house or dozens available externally or through self-study. Advanced writing workshops and briefing techniques courses are favorites among employees as well.

The in-house staff of instructors has developed several highly innovative, unique-to-NPIC programs. Among the more progressive are the Ethics Awareness Seminar, the Lead-



Career Control: NPIC offers many resources designed to help employees, like [redacted] of ESG (above), enhance existing skills or learn new skills.

ership Development Program, and the Supervisory Counseling Course.

This is not to say that NPIC employees never venture outside Building 213 for training. Employees take advantage of the many courses offered by the CIA's Office of Training and Education, by other Intelligence Community organizations, by external contractors, and by colleges and universities.

NPIC sponsors several employees for full-time academic training each year. To expand the educational opportunities available to ethnic minorities, the Center also sponsors between three and five qualified minority employees each year for full-time undergraduate or graduate academic training.

In the future, training at NPIC will become even more responsive to the needs of a changing workforce. Currently, NPIC is aggressively exploring training courses that focus on multicultural diversity.

Career Development Office

Former Director Frank Ruocco created an in-house Career Development Office (CDO) in 1989. This office serves as a Center-wide resource for career exploration and development; job-related issues; personal counseling; and grievance, discrimination, and EEO issues.

Rotations and Reassignments

The strongest workforce is a well-rounded workforce. With this axiom in mind, NPIC management long has encouraged employees to develop their career potential and gain new insights by "testing the waters" outside NPIC. This is done largely through rotational assignments, generally one or two years in length, which focus on strengthening existing skills and career potential or developing new skills critical to NPIC's mis-

sion. Employees can apply for rotational assignments through the standard CIA vacancy notice system or through NPIC's Career Development Call. The "call," held each February, enables employees to request specific reassignments within NPIC, within CIA, or elsewhere in the Intelligence Community.

Employees seeking reassignment (a direct transfer to another NPIC group or CIA office) also can gain assistance at NPIC through Personnel Division and the CDO.

Awards and Recognition

The names may sound funny—Eagle Eye, Search Ace, Feather in Your Cap, Soar With Eagles, the Order of the Eagle—but the meaning is quite profound. These unique-to-NPIC honors, initiated in the mid-1980s, recognize an extraordinary performance or, in the case of the Order of the Eagle, five extraordinary performances.

For fiscal year 1992, Director Leo Hazlewood has created four new awards to be presented annually: the Secretary of the Year Award, the Multicultural Diversity Award (for the person who has done the most to advance this goal during the year), the Professional Mentor Award (for exceptional skills and talents in this area), and the Lundahl Award (for the person whose performance best exemplifies the standards of excellence associated with NPIC's first director). The awards will include money and a distinctive memento. The Lundahl Award winner, if assigned to Building 213, also will receive the open parking space on NPIC's "executive row" for that year.

These programs and many others prove that NPIC's attention may be focused on the world, but the Center hasn't forgotten about its people. □

The March of Technology

Tracking NPIC's technological advances is a bit like watching a parade: your view depends on your seat in the reviewing stand. High "techie" at NPIC are likely to believe that automated change came at a snail's pace, upgrade by upgrade. Low techies (those who still gasp at the sight of a Wang terminal) might differ in their assessment; for them, the changes were lightning fast.

Whatever your view, this much is certain: technology has not stood still. To gain a sense of just how sweeping the changes have been, consider some of the advances made over the past three decades.

Computers

ALWAC III-E: Used in the Steuart Building and later in Building 213 for U-2 mensuration, the ALWAC was a total-batch-process system, which meant that operators could load data in and get data out in batches, but could not alter the process once it began. The cumbersome system worked on paper-tape input and output and had a vacuum-tube (vice magnetic) memory. But even the ALWAC was revolutionary: it was one of the first digital computers in the Agency.

IBM 407 and 1401: The 407 was a punch-card "lister" and required total-batch processing. It generated "blip sheets"—massive paper printouts with up to seven carbon copies of historical data and blank data-entry forms. Photointerpreters (PIs) would enter the readouts, in *longhand*, on the entry forms. A data-entry operator would punch the data onto the cards. One sidenote: producing blip sheets from the 407 took an entire weekend. The 1401, the later generation model, accompanied NPIC on its move from the Steuart Building. It provided mensuration and information processing and featured four magnetic tape drives and 8,000 bytes of memory. One big advance: blip sheets could be produced in three to four hours with the 1401.

Univac 490 and 494: Like its forerunners, the Univac 490 (introduced in 1962) was a total-batch system, but this model provided 32,000 words of memory and was used initially for mensuration and later for information processing.

In 1968, the Univac 494 introduced NPIC to the wonders of remote-batch processing, where computing could be controlled away from the central computer. Two terminals were used with the 494: initially, the Sanders 920 and later, the Sanders 804. NPIC's 10 tailor-made, state-of-the-art 920s each weighed 600 pounds and needed a floor fan to keep from overheating. The 804 was the first online interactive terminal used by imagery analysts (IAs)—on a limited basis. A "paperless branch" was formed in the Imagery Exploitation Group (IEG) to allow a cadre of IAs to try their hand at automation.

Univac 1100s: This series of computers was added in 1975. Remember Delta Data terminals and light pens? Then you remember the 1100/80s, which made their NPIC

debut in 1981. Online interactive terminals became indispensable tools of the trade for NPIC's IAs.

Unisys 1100/90s: In 1986, a new online interactive system appeared at NPIC. The Sun terminals were the next wave in computing and the first *observable* wave of NPIC's modernization program. Gone was the light pen, replaced by a mouse.

How far have we come? Today, NPIC's world-class computing power emanates from two Unisys 1100/93s and one Unisys 1100/91. Together, these systems offer 160 million bytes of memory and 146 billion bytes of storage and process 48,000 transactions a day.

Light Tables and Optics

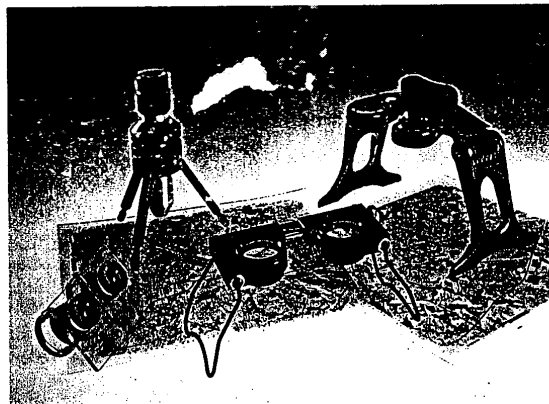
"Light Boxes" and Scopes: In the 1960s, PIs were using light boxes of varying sizes (9 by 18 inch or 9 by 40 inch, typically). Some

light boxes featured tilt tops; all relied upon crank reels. A wide assortment of optics—many pocket sized—were used: tube magnifiers, stereoscopes, stereomicroscopes, and "dynazooms." One memorable version, called the "rocket," was a tall, tube-shaped magnifier supported by three "legs." It looked as if it might launch at a moment's notice.

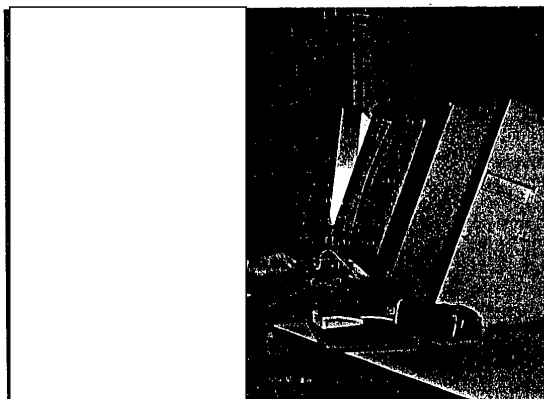
During the 1960s, PIs also used the Richardson Film Viewer, which projected images onto a large, ground-glass screen and generally required a team of interpreters and a collateral researcher.

AIL 1540: This light table was introduced at NPIC in the early 1970s and remains in use today. With the 1540, we were zooming to high powers, using the Zoom 240- and 500-series stereomicroscopes.

Richards HFO-4: Currently the light table of choice, the HFO-4 has been around



Old Optics, New Options: Pocket-sized optics like those displayed above were once standard tools of the exploitation trade. They have been replaced, in part, by IDEX II, which offers push-button convenience, as [redacted] of ESG (background) and [redacted] of IEG demonstrate.



since the 1980s and typically is paired with the Zoom 500 stereomicroscope.

Soft-Copy Exploitation

DIM: Taking a cue from NASA, which applied digital technology to enhance images of the moon, NPIC journeyed into the realm of digital, soft-copy image enhancement at the beginning of the 1970s, with the Digital Image Manipulation (DIM) system. The DIM allowed image scientists to enhance very small areas of digitized imagery.

IDIMS: In 1976, NPIC took a quantum leap forward with the Interactive Digital Image Manipulation System (IDIMS). With greater computing power and a wider variety of algorithms, the IDIMS allowed a wider range of image-enhancement capabilities. It has undergone numerous upgrades and remains in service today. Still, it was built for the scientist, not the IA.

IISEM: The prototype to today's soft-copy systems, the Imagery Interpretation System-Engineering Model, or IISEM, was installed at NPIC in the late 1970s and enabled analysts to manipulate digital data on a TV screen.

IDEX I and IDEX IA: In 1982, after a successful IISEM trial, the Image Data Exploitation (IDEX) system was installed at NPIC. With IDEX I, the basic functions of DIM and IDIMS, plus more sophisticated processing, could be done with the push of a button. The IDEX IA, a new-and-improved IDEX station, was activated in 1985.

IDEX II: The long-awaited IDEX II became operational at NPIC early this year and provides IAs with many advanced features. With the advent of IDEX II, the IDEX I system was phased out.

Measurement

In days of yore (circa 1960s), specialists who wanted to take measurements of an object on film were "floored"—literally. Handheld photos were pinned to a cork floor and measurements were obtained by drawing vanishing points on the floor.

We've come a long way. Over the past three decades, we've used the reticle on tube magnifiers, photo slide rules, stereocomparators (like the Nistri, NRI, and Mann); the one-of-a-kind, high-precision stereocomparator that weighed 15 tons and was set on bedrock; and digital stereocomparators. In the 1980s, analysts were able to make measurements at their workstations through the light table mensuration system. Today, photogrammetrists also use the Intergraph system for measurements and evaluation.

Office Automation

Think back far enough and you can probably still hear the pounding of a manual typewriter—the office tool of the 1960s. In the space of three decades, those workhorses were replaced by electric typewriters; by IBM Selectric typewriters; by IBM Magnetic Card typewriters; and finally, by the Wang word processor.

"Make me a carbon copy of this." Those were dreaded words if you ever battled a car-

bon paper smudge. Carbon copies eventually were replaced by thermofaxing, a copying technique that used infrared light and heat-sensitive paper. The result? Only the densest tones were copied. Today, we rely on user-friendly photocopiers.

Calculate this progression of developments: 40-pound mechanical desk calculators (retailing at about \$400 in the 1970s) were eventually replaced by hand calculators (about \$400), which in turn were replaced by more advanced (and mass-produced) hand calculators (about \$40). Now, personal computers often are used for calculating. Their cost? About \$4,000. Such is progress.

Publishing

Over the course of 30 years, the cut-and-paste technique has, for the most part, been replaced by desktop publishing. At NPIC, the Graphics Production System, the Macintosh, Intergraph, Genigraphics, ATEX, and the Autologic Phototypesetter are used.

Processing

In the printshop, we've gone all the way from the mimeograph machine to a new, fully computerized, five-color offset press. In the photolab, the standard operating equipment has remained the same for the most part, with a few key refinements. The photolab doesn't believe in casting off old machinery: they still have serial #0001 of the Beacon Precision Enlarger!

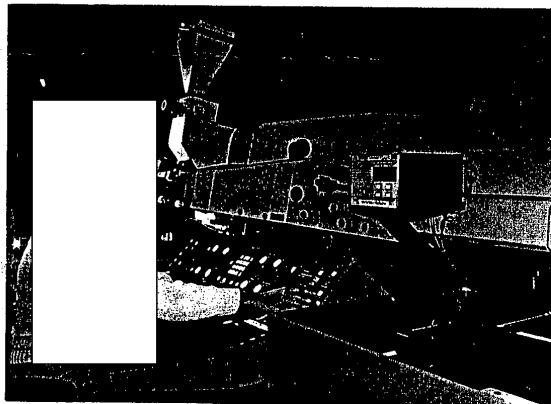
Security

The security system in our early days had one critical component: The former Steuart Building elevator operator knew every employee's face and badge number and had badges ready for each person as they entered the building. eventually was replaced by a team of guards who also "read faces"; they in turn were replaced by badge machines, which read magnetic strips (but do not smile and say "good morning").

Ah, for the good old days. ☐



Modernizing Measurements: How do you gauge progress in the mensuration business? Look at these photos. The photo above shows an old comparator, used during the 1960s and 1970s. The photo below shows a high-precision stereocomparator, with of ESG behind the space-age control panel.



Time Flies:

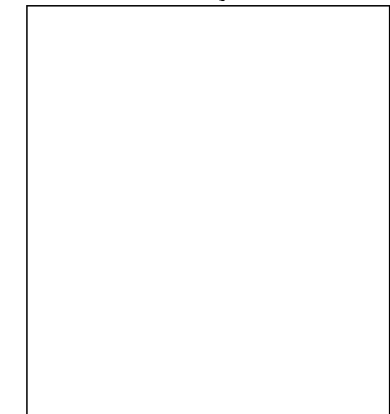
'Veterans' Reflect on Three Decades at NPIC

Thirty years can change a person. It can give you a spouse, a family, and a mortgage. Thirty years, when spent in the same organization, also can give you a sense of perspective, a sense of what it was like "to be there when . . ."

So it is with each of the employees profiled below. They came to NPIC in 1961 (or earlier) with different goals and aptitudes. Each remains in the organization today, and each has a special story to tell.

For 30 years, [redacted] has enjoyed a "picturesque" career. It has been filled with astounding photo images, a couple of rogue operations, and more than a smattering of history.

Almost from the start, [redacted] NPIC career took on historic proportions. Now a deputy division chief in the Imagery Exploitation Group (IEG), [redacted] came to NPIC back in 1961 as a courier. It was in this role that he found himself having access to some of the most noted figures of the time.



"As a courier, I had the chance to drive Mr. Lundahl to meetings and accompany him to briefings. I remember back in 1962 taking him to a briefing at the White House, where he and I were alone in the room with former President Eisenhower, President Kennedy, and Secretary of State Dean Rusk. On other occasions, I took him to meetings with General Maxwell Taylor, General Curtis LeMay, and Bobby Kennedy," he recalls.

[redacted] was a bit "overwhelmed" by the company he kept, but recalls that he never felt out of place. "Art Lundahl made you feel equal and important—no matter what you did for a living."

His exposure to photointerpretation led him to change career fields. His career choice could not have come at a more propitious time. In October 1962, as he was attending photointerpretation training at the Naval Air Intelligence Officers School in Anacostia, Maryland, Soviet offensive missiles were being detected in Cuba, and an international

crisis was beginning. [redacted] and 15 other NPIC photointerpreters (PIs) in training were called back to work at the Center on evenings and weekends.

"I guess you could say that I started my photointerpretation career with a bang. I was thrown right in," he recalls. The Cuban crisis continued for months after [redacted] formal PI training, and the IEG manager considers the crisis the best supplemental training he could have received. "We sometimes worked for days without going home, but we never tired of it because we knew we were doing something important. The nation was on the brink of nuclear war, and everything we did at NPIC was crucial to what the President and the military did."

Despite being a neophyte PI, [redacted] did not feel intimidated. "There was no time for intimidation!" he says with a laugh. "Besides, we all worked as a team during the crisis. The camaraderie could not have been better; there was no separation between jobs, no 'us versus them.' I made a lot of solid friendships during that crisis that have lasted all this time."

In 1963, as the postcrisis coverage continued, NPIC moved to Building 213, and [redacted] remembers the experience well. "This Building was a big step up from the ancient Stuart Building. In Stuart, we were jammed into offices. I worked in an office with seven people and five desks! The last two people in to work every day had to go look for workspaces somewhere else. When we moved into NPIC, we occupied only 25 percent of the building. These were big, brand new work areas."

Hot Projects

During the 1960s, [redacted] worked on a number of "hot" projects, ranging from a four-month tour in Miami to covering Israel's Six-Day War. In 1971, he left the light table to become a deputy branch chief. Later in the 1970s, he spent a rotational assignment in the Directorate of Intelligence's former Office of Strategic Research (OSR), working as a liaison between OSR, the Office of Imagery Analysis, and NPIC; he ran the Basic Imagery Analysis School from 1978 to 1980; and he served as a deputy division chief at the Priority Exploitation Group.

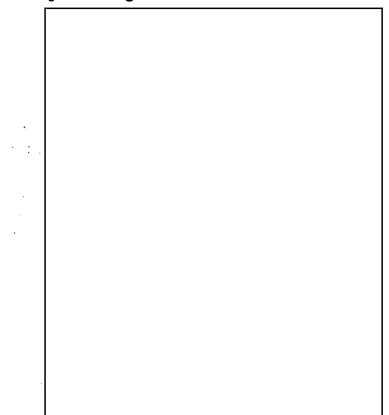
Through it all, [redacted] has seen a career's worth of changes. One of the biggest is computerization. "Computers are a major part of the imagery analyst's [IA] work now. When I was a PI, we didn't have computers, we had 'blip books'—big binders with computer printouts full of information." The blip books were kept in a central location, and the PI would have to leave the light table, get the book, and read through it to find his or her target. And everything the PI did was handwritten. "Now, you just use the keyboard at your workstation to call up everything you need."

The visual tools of the trade have changed radically, as well. "Years ago, most exploitation was done with a 7-power tube magnifier, a lens that you wore on a chain around your neck. You placed it on top of the film and you put your eye up against it, so your eye was almost on top of the film," he explains. "We generally used a 9- by 18-inch upright light table. The film (18 by 18 inches) was cut down the middle, and one person looked at the left side, another at the right. The difference between light tables then and now is like the difference between a Model T and a Porsche."

[redacted] long-term perspective has served the Center well in countless crises through the years, and the most recent international upheaval, Operation Desert Storm, was no exception. As a deputy division chief assigned to a near east division, [redacted] played a large part in forming IEG's Persian Gulf Task Force. "I was glad to be in the middle of the crisis. That's what this job is all about. Every IA hopes to work something like that in a career. I've been lucky; I have had several such assignments."

[redacted] believes that many employees stay at NPIC for the chance to make a historic contribution. "There is great excitement to this job. It is just plain exciting to discover things that will make history. The anticipation of a new find is what keeps you going."

[redacted] arrived at NPIC during the long, hot summer of 1961. He came to the Stuart Building to work in the photolab. In those days, the lab had only a small staff, and the photogeneralists, as they are known, were responsible for handling, delivering, and processing film.



[redacted] was not a newcomer to photography or photolabs. Prior to joining the National Center, he had spent five years as a photographer with the FBI. He was "lured" to the CIA by a member of the U-2 support

team. Once recruited, [] was sold. "I've never once been sorry I left the FBI. Working here at NPIC is the most incredibly exciting way to earn a living that I can imagine," he enthuses. "We are fortunate. We can see—and we have seen—the difference our work makes. We watched the Soviets flex their muscles 90 miles off the coast of Florida, and I am convinced that they went home with their tails between their legs because of NPIC's efforts."

The muscle-flexing that [] speaks of is more widely known as the Cuban missile crisis. This incident of international brinkmanship began to unfold only a year after [] entered on duty. Despite the passage of time, he remembers the crisis well and reflects upon it often.

"It was without a doubt the most memorable event of my career, and it was one of the most significant emotional events of my life," he declares. In his current position as NPIC's briefing officer, he has grown accustomed to retelling the story to countless tour groups and visitors.

Long, Hot Days

From August 1962 through early 1963, members of the small NPIC cadre worked feverishly to stay on top of the situation. "We were closeted in the Steuart Building, working 12-hour days, seven days a week, with no time off," [] vividly recalls that the working environment left quite a bit to be desired. "The Steuart Building was God-awful hot and humid. It had poor ventilation and you couldn't open the windows. The photolab literally stunk from the chemicals."

Despite the hardships—or perhaps because of the hardships—imposed by the Cuban crisis, the men and women of NPIC were imbued with a stirring sense of mission, [] recalls. "We never felt driven to put in those hours, we always felt it was a matter of choice. Most of us wouldn't have gone home even if someone had told us it was okay to do so. NPIC was where we wanted to be. We believed we held the mission together. Here we were—a small, ill-defined, rag-tag team able to provide the President with the intelligence necessary to stop nuclear destruction."

The NPIC veteran credits NPIC's founding director, Art Lundahl, with invoking the spirit de corps. "Mr. Lundahl was a shining example of professionalism. He was the quintessential role model."

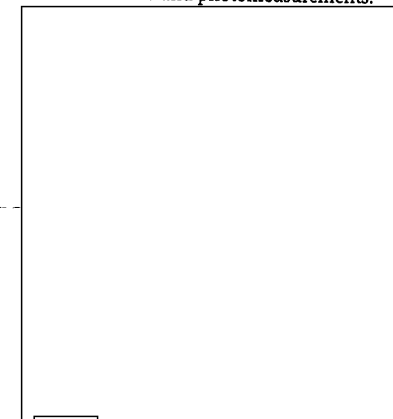
Over the years, [] has had ample opportunity to observe other international developments. Two historic episodes stand out in his mind: the North Korean seizure of the USS Pueblo in 1968 and the Iraqi rocket attack on the USS Stark in 1987. "When the Pueblo was seized by North Koreans, information existed that might have kept the crew from being captured and brutalized, but the wrong military response was used.

The incident taught me that no matter how good the intelligence, the political and/or military response must be right and it must be timely."

[] contrasts the Pueblo failure with the USS Stark episode. "After the Stark was hit by Iraqi missiles and 37 sailors died, intelligence helped the ship make its way through the dangerous Strait of Hormuz back to home port in Florida. It proved to me that intelligence can work when it is used properly." If [] heeded additional proof, he received it about a year ago. He was briefing a group from the National War College and mentioned the Stark incident, when one of the audience members raised his hand and identified himself as a former Stark crew member. "He talked for about two hours about the crisis. He recounted the whole experience and his emotions at the time, and it was clear he credited the ship's safe return to intelligence."

[] happily considers himself an NPIC "lifer." In 30 years, he never once worked outside NPIC—not even on a brief rotational assignment. And he has no plans to leave the Center now, with retirement just over a year away. But he voices no regret about his career choice. "There is no doubt in my mind that I made the right decision in staying here. This is the place to be."

Several current-day employees began working for NPIC before there was an NPIC. That is the case with [] Deputy Chief of the Operations and Engineering Group. She entered on duty in December 1959—when NPIC was simply PIC (Photographic Interpretation Center). She arrived with a degree in mathematics, eager to work on math models and photomeasurements.



[] entered an organization that was vastly different from the NPIC of today. Although she was a computer programmer, her first assignment predated modern automation. She worked in the hot and cramped PIC computer room on the sixth

floor of the Steuart Building. Her computer was the ALWAC III-E, an ancient model that operated on a vacuum-tube system with paper-tape input and output. The ALWAC was notable for its unwieldy size and frequent need of ad hoc maintenance—and for producing the measurements used in the Cuban missile crisis.

The early days were challenging in other ways as well. "The Steuart Building was in a rough neighborhood, and I was always a little uneasy. We were right across the street from a police station, and one morning I came to work and found that shots had been fired right through the windows of the sixth-floor computer room!"

Tumultuous Times

In May of 1960, just months after [] arrival, the U-2 piloted by Gary Powers was shot down over the Soviet Union, effectively blowing the lid off the reconnaissance operation. "We were all terribly upset, because now it was certain the Russians knew about the U-2 program. We didn't know whether or not the U-2 missions would continue." The missions did continue, as did PIC's growth and responsibilities. Less than a year later, National Security Council Intelligence Directive 8 was signed and the National Center was born. But by 1962, the new National Center would be plunged into a critical test of fortitude: the Cuban missile crisis.

The crisis had a profound impact on [] "We felt such pride as an organization. We had accomplished something that no other organization could accomplish—we had confirmed that the missiles in Cuba were offensive, rather than defensive," she says. "That was a thrilling time, because we were charting new territory. There was plenty of room for creativity, because there were no established rules or regulations. There was just an important job to do, and anybody would do anything that needed doing, for as many hours as required. We didn't have job descriptions back then."

The years that followed the Cuban missile crisis were troublesome for society as a whole and for CIA careerists in particular. "The 1960s were rough for me and for a lot of CIA officers. We felt we were special for having been selected to work for the CIA and we were proud of what we were doing, but at the same time there was a tremendous anti-CIA backlash in society. We couldn't defend our organization or correct misperceptions; we could only stand back and listen to disparaging remarks."

In the middle of that turbulent decade, [] made a pivotal professional transition. In 1964, she stopped developing computer programs and became a section chief. It was a transition that came without warning. "One day my boss just came in and said, 'You are going to be the section chief for 18

Continued on page 16

Time Flies continued from page 15...

people. Here are their names.' I asked him, 'What do I do?' and he said, 'Act like a section chief.' I had taken no management training courses, but I figured I would try a few things, make some mistakes, and learn from them," she recalls.

learned well and progressed through the managerial ranks—from branch chief all the way to group chief. She was the first NPIC woman to rise above the branch-chief level at NPIC, a fact that carried with it advantages and disadvantages. "Growing up in this organization, I had no female role models or peers. I didn't think of it as being difficult at the time, because I didn't know differently. But looking back, I think it was more difficult than I knew," she says. "Expectations were different back then, and there was a popular belief that management was a male purview. I think I was viewed differently because I had a degree in math and a technical background. I also think it was easier for me to move ahead because I worked in computer science, a field so new that there were no long-held traditions."

During the 1970s and 1980s, witnessed a profound change in the roles of women in the workforce. "Women were accepted in positions of authority much more easily, and they had more options for balancing their families and work life, like day-care programs." In 1979, became the first woman at NPIC to be promoted to the senior intelligence service (SIS) ranks. "At the time, there were less than a dozen SIS women in the entire Agency. Now, there are 80. That increase is very gratifying."

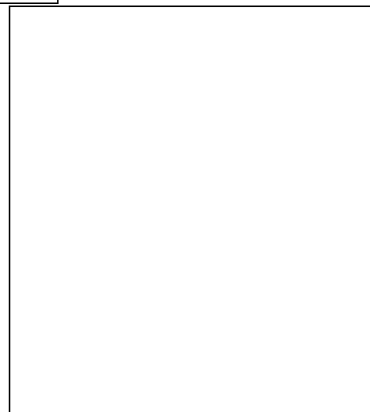
In addition to workforce changes, also has observed many technological changes. "There has been a phenomenal change in technology in this organization. Back in 1961, we envisioned IAs doing their own computing and measurements right at their workstations. That vision was not accomplished until the modernization program of the 1980s. It took a lot longer than we thought it would, but I am still astounded by all the technological changes that have taken place," she says.

has not stayed firmly planted at NPIC for the past 30 years. She spent three years on the Directorate of Science and Technology (DS&T) staff and two years on the Inspector General's staff. But she always intended to return to NPIC. "This place and this work gets in your blood," she enthuses. "NPIC has a very specific contribution to make. And this organization has been good to me. It's given me a lot of opportunities to grow and to develop, and I've made a lot of good friends."

shares something in common with . They worked together in the Stewart Building, calculating math models on the venerable ALWAC computers. Bergey joined the Agency in 1956, working as

a cartographer in a location near Foggy Bottom; he joined NPIC in 1961 to work in photogrammetry.

Like he shares some colorful memories of the Stewart Building. "It was a crummy neighborhood and had a real parking problem. We would park on the street, and every couple of hours we had to go move our cars to make sure they weren't ticketed." (car never was.)



One afternoon in 1962, as was getting ready to go home, a PI entered the office to doublecheck the measurement of a crate. stayed an extra couple of hours to get the job done and didn't think much more about it. Days later, he discovered that measurement—which happened to be of a crate in Cuba—had landed on President Kennedy's desk. That was introduction to the Cuban missile crisis and to high-stakes intelligence.

Massive Measurements

The weeks that followed brought long nights, 12-hour shifts, and a massive number of measurements. Through it all, maintained a sense of perspective. "I really never felt afraid or threatened by the prospect of war—maybe I was just too dumb to feel that way. It was a busy time and you just did your job."

Although it is not apparent from his low-key approach, has lived through amazing times in photointerpretation history. He remembers only too well the first time he saw photographs taken by the U-2. "I was amazed by how much territory the U-2 covered. You would look at a ship on the water and realize how small it was and how high the U-2 was flying." He still recalls the time he watched a U-2 take off. "It went only a short distance on the runway and then took off at a 45-degree angle. Then it was quickly out of sight. That was something to see." Later, he witnessed the takeoff of the SR-71.

Advances in reconnaissance systems have paralleled advances in work area. "We moved from paper-tape machines to

punch-card computers to electronic computers. When we moved to Building 213, I had to learn the Univac computer, a whole new system. That was the beginning of my programming career." The learning process has never stopped for. "Now I am learning how to program the Macintosh personal computer for small-utility mensuration programs."

With advanced systems came an influx of new people and a new work environment. "It used to be that I knew 50 percent of the people here; now, I'm lucky if I know five percent. And I'm the oldest guy in my division. It gives me a father complex, but I guess it keeps me young," he quips.

has never felt compelled to look for career opportunities outside NPIC. "I like working here, and I knew there was no place else where I could do this type of work. Plus, the people are great. They care a lot about the mission and they are dedicated to doing a good job."

In 30 years, has he ever been bored? "Sure, there are days when my job gets boring, but I stick with it because I like solving problems," he says. "Around here, it is challenging just to keep up with the technology, so I am always learning a new system. I just keep plugging along." □

Thirtysomething

NPIC can boast of having several "founding" members—pioneers who have been with the organization since 1961 (or longer) and who remain active among our ranks. In addition to the four employees featured in "Time Flies" (page 14), the 30-plus club includes:



Two former Army officers, who were assigned to NPIC in 1961, also have stayed on board all these years:



This information was supplied primarily by Personnel Division. □

Lundahl continued from page 9...

ng defensive lines. It seemed like a medieval view.

We must be careful. We have been training our PIs all these years to learn what the state of technology is—let's say in nuclear gases diffusion plants. We know what they look like in the US or in England. But in Iraq and some Middle Eastern countries, they use techniques that had been tried, perfected, and rejected by the US many years ago. Therefore, it is very difficult to find elements of these nuclear programs, because we're thinking in terms of the 20th century.

We are going to have to pay particular attention to the animosity between India and Pakistan; to North Korea; to Libya; to the other sleeping giant, Syria; as well as to Iran, Iraq, and a dozen or more countries. We also must pay close attention to rapidly developing Soviet provinces. Will they have their own weapon systems? Will they have their own communications systems, their own KGB? We cannot make any implicit assumptions about these new provinces.

"Photography is the only thing we've come up with that stops time. Literally."

Given the rapid changes in technology and in the world itself, does photointelligence retain its importance? What is the true value of the photographic image?

There is no question that photointelligence will continue to be extremely important in the future. Wherever there is a big event, photography will be called for. I would predict more demands on photography for economic purposes. Not just to determine the status of crops and the infrastructure, but to tell something about the industrial base. And we've got many other places to study in addition to the Soviet Union. It's clear now that the "hot wars" in the year 2000 and beyond will transpire into very big economic wars.

In the overall concern about the preservation of the environment, photography will help us decide what is happening. Photography must help in world disaster situations—fires, earthquakes, chemical or nuclear disasters. It also will be a prime mover in helping people recover.

Photography is the only thing we've come up with that stops time. Literally. You can take thin or thick slices of time and lay them before you, magnify them, measure them, enhance them, and do many other things. Photography pierces barriers to humans—things that are too far away, too small or too large, too fast or too slow. And at NPIC, we're always reaching for a synergistic effort, where the total is greater than the sum of the parts.

It is my impression and conviction that NPIC will continue to grow in importance under effective leadership and the continuing dedication of the kind of people that we've had for the past 30 years. We've come a long way, and we've compiled a marvelous record. □

NPIC's Living Museum

As government office space goes, the reception area outside the NPIC auditorium has a distinctly personal feel to it. Notably absent is the customary institutional blandness—the gray-on-beige look. Instead, those who enter the room find an inviting suite decorated in muted shades of plum. But the auditorium anteroom provides more than color and comfort. It also offers a front-row view of history.

The Lundahl Room, as it is known, houses the medals, medallions, and honors that highlight the career of Arthur C. Lundahl, NPIC's founding Director. The room is something of a museum, but it is not an off-limits archive. Instead, it is a meeting-and-greeting area for scores of employees and visitors who come to the auditorium nearly every day of the week.

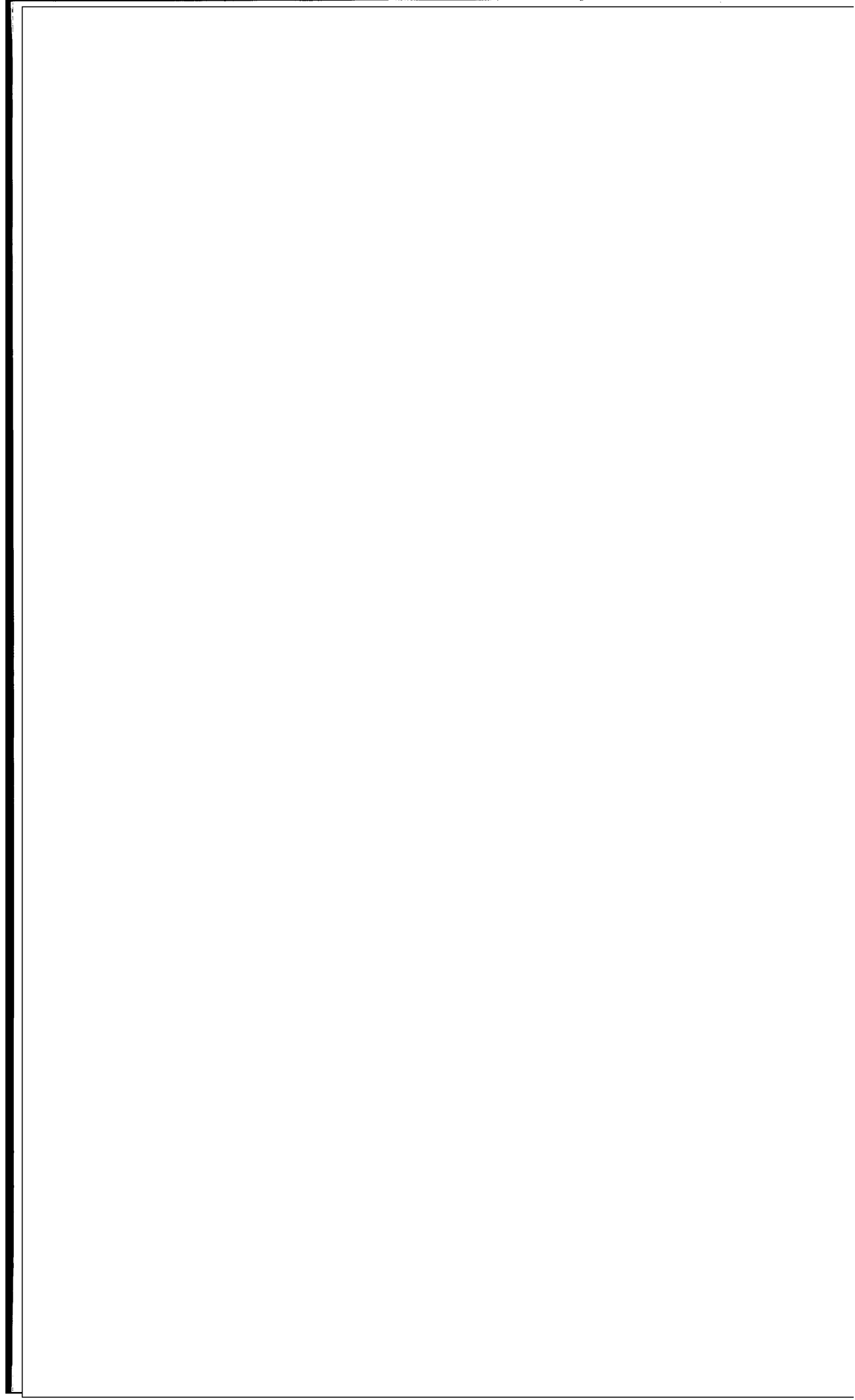
Most visitors are drawn to the softly lit display case that houses the impressive artifacts of Lundahl's career. Inside, neatly displayed, is Lundahl's emblem of membership in the Most Excellent Order of the British Empire; NPIC's first Director was knighted in 1974 by Her Royal Highness Queen Elizabeth II. Also on display are a National Security Medal, awarded to the former Director in 1973 by President Richard M. Nixon; the Pioneer in Space Award, presented in 1985 by President Ronald W. Reagan; a Distinguished Intelligence Medal from CIA; an Exceptional Service Medal from DIA; and an award from the Defense Mapping Agency Topographic Center. In addition to medals, the display case also contains photographs (including an autographed photo of Kelly

Johnson, the U-2 designer) and a silver calendar, designed by Tiffany's, highlighting the critical days of the October 1962 Cuban missile crisis. President John F. Kennedy had 12 of these calendars made and presented them to his closest advisers; Lundahl was among them.

Amidst the array of colorful photographs, awards, and medals, one might easily miss a note, signed by Mr. Lundahl, which states simply: 'These honors were made to my name, but they truly represent honors paid to the Building 213 Family—each and every one of you—for your notable accomplishments. I am proud to have received them for you.' □

30
and shipping

30
and shipping



NPIC Trivia Game

1. Which President signed the bill making NPIC a national center?
2. How many Directors has NPIC had over the years?
3. What is the total number of divisions currently at NPIC?
4. Where was NPIC's first "home?"
5. How many official visitors does NPIC receive a year (not counting Open House visitors)?
6. Which, if any, US presidents have visited NPIC?
7. How big is Building 213 (in square feet)?
8. How many square feet of carpeting cover NPIC's floors?
9. How many Macintosh computers can be found at NPIC?
10. How much ink does the printshop use in a year (in pounds)?
11. How many miles of network cable run through Building 213?
12. How many Deputy Directors has NPIC had?
13. In round numbers, how many people have graduated from the National Imagery Analysis Course since 1978?
14. How many DCIs have visited NPIC?
15. Which floor of Building 213 has undergone the most extensive renovation?
16. How many elevators are there in Building 213?
17. Why is there a stairwell in front of Building 213?
18. How many vaults are in NPIC?
19. How many viewgraph frames does the supply room hand out in a year?
20. What floor of Building 213 houses the most employees?
21. How many groups does NPIC have?
22. How many CIA secretaries are assigned to NPIC?
23. On average, how many pounds of silver does the photolab recover from film processing in a year?
24. How many telephones (commercial and secure) are in Building 213?
25. How many haircuts are given at NPIC per week?
26. How many Sun workstations are located in Building 213?
27. How many SIS officers are assigned to NPIC?
28. How many CIA-owned copiers does NPIC have?
29. How many Wangs are "on line" in Building 213?
30. What is the average number of meals NPIC's cafeteria serves per day?

1. President Eisenhower. 2. Six. 3. 38 divisions. 4. The top floors of the Stewart Motor Car Company, 5th and K Streets, NW. 5. On average, NPIC hosts about 3,000 official visitors each year. 6. George Bush visited PEG as Vice President. No President has visited while in office. 7. It measures 453,600 square feet, with a 58,800-square-foot annex. 8. About 592,600 square feet. 9. As of 1 October 1991, there were 562 "Macs." 10. 1,820 pounds, on average. 11. Thick Question: The exact number is unknown, but there is more than enough cable to go from here to Moscow and back. 12. We've had 10 Deputies. 13. Over 1,000. 14. Six: Dullies, McCone, Helms, Turner, Casey, and Webster. 15. The first floor. 16. 10; the elevator shaft outside has no remaining elevator components, so it is not included. 17. Originally this stairwell/elevator was used by US Geological Survey for access to their sixth-floor offices. It remained after their departure, but the elevator shaft was modified to serve as a storage area. The emergency egress stairway from the sixth floor and the roof still remains, as well. 18. Officially, 104, but the number fluctuates with renovations. 19. About 10,400! 20. The fifth floor, home to both ITAC and DIA. 21. Seven groups. 22. 69 CIA secretaries. 23. 130 pounds of silver, or an estimated \$8,528 worth. 24. 4,528 at last count. 25. 111 haircuts. 26. As of 1 October 1991, there were 866 Suns, but this is a "living figure" and the count changes regularly. 27. 31 as of the last SIS promotion cycle. 28. An estimated 56. 29. 720 Wangs. 30. 2,000 meals!

Historic Headlines

For the past 30 years, 18 January—NPIC's charter date—has been newsworthy for many reasons, as these headlines from The New York Times show:

- 1961: Eisenhower's Farewell Address Sees Threat to Liberties in Vast Defense Machine
- 1962: Dominican Republic's Junta, Rafael Rodriguez Echavarria Ousted
- 1963: US Favors Sea Missiles, Not Land, to Shield Italy
- 1964: Panama Imposes Complete Break; US Aides Depart
- 1965: President Johnson Plans 88 New Projects to Fight Poverty at the Cost of \$101,960,782; Approved by Congress
- 1966: McNamara to Ask 113,000 More Men for the Military
- 1967: Saigon Proposes Talks With Hanoi to Extend Truce
- 1968: Johnson's Budget \$186 Billion, He Wants Gold Reserve Freed, Seeks an Assurance by Hanoi
- 1969: France Proposes Big 4 UN Envoys Meet on Mideast, Diplomats Feel Suggestion Brings Paris Closer to US and Soviet Positions
- 1970: Air Pollution is Following Population to the Suburbs
- 1971: Army Spied on 18,000 Civilians in 2-Year Operation. [Information about 18,000 American civilians, mainly those who opposed the Vietnam War, reportedly was fed into Army files.]
- 1972: Mujib Orders Guerrillas to Give Up All Weapons, Sheik Mujibur Rahman Acts to Halt Disorder Among the Bengalis
- 1973: Thieu Reported to be Objecting on 4 Key Issues, Snags Said to Include POWs and Truce Supervision But Not Broad Outlines of Accord
- 1974: Egypt and Israel Reach Accord on Separation of Canal Forces; A Pact to Open Suez is Reported
- 1975: Peking Prepares New Constitution
- 1976: Lebanese Planes Attack Leftists and Palestinians, Intervention by the Military in Moslem-Christian Strife, Army Accused by PLO
- 1977: Gilmore is Executed After Stay is Upset; "Let's Do It!" He Said; Firing Squad Ends 10-Year Halt in Death Penalty
- 1978: Experts Dispute [Carter] Administration, Doubt World Oil Shortage in 1980s
- 1979: Carter Issues Plea to Khomeini to Give Iran Chief a Chance, Ayatollah Urges Backers to Press, Fight on . . . Arms Sales to Go on, President Says Monitoring of Soviet Missiles Will Remain Adequate
- 1980: US Plans Embargo on Iran on Its Own as Allies Shun Idea, Europeans Cite Trade Laws, Soviet Intervention in Afghanistan Limit Steps Against Teheran
- 1981: Iran and US Seek to Clarify Terms for Freeing Hostages; Banks Agree to Compromise, Debt Called an Issue, Lawsuits May be Dropped if Some Overdue Loans are Repaid at Once
- 1982: Mercury Sinks to 0, Season's Low in New York City, Century's Worst Cold Persists
- 1983: President is Urged to Press Japanese for Freer Trade, Industry and Union Chiefs Give Views to Reagan on Eve of Talks With Nakasone
- 1984: A Hong Kong Plan Detailed by China, Aide Says "Time Is Ripe" for an Accord on Colony's Future
- 1985: "Right to Die" Rule in Terminal Cases Widened in Jersey, State's High Court Acts, Declares All Steps to Prolong a Patient's Life, Including Feeding, Can be Halted
- 1986: Tank Battle Puts Lebanese Nearer to Full Civil War, Moslems Fight Gemayel, Militias Attempt Advance on Christian President's Town
- 1987: Inquiry Into NSC Uncovering Little About Iran Deals, White House Panel Described as Lacking Access to Key People and Documents
- 1988: New Election Held by Haiti Leaders; Vote Appears Low, Boycott is Widespread, Many Irregularities are Seen
- 1989: Baker Asserts US Should Not "Rush" in Aiding Moscow, Favors Gorbachev Plans, Secretary-Designate Outlines Goals in Foreign Policy
- 1990: Greater Reliance on Foreign Oil Feared as US Output Tumbles, Production Decline Last Year was Largest Ever
- 1991: Iraqis Fire Missiles at Small Israeli Cities After Second Day of Allied Bombing; US Discourages an Israeli Response

How Do You Think NPIC Will Change Over the Next 30 Years?

"In the next 30 years, we won't be looking at film anymore; we'll be looking at television sets. There won't be any film left."

"In 30 years there will be no need to separate PEG, ISG, and NPIC. The Center will merge these groups and run on a 24-hour schedule."

"Speaking strictly from a Support Group [SG] point of view, I see SG growing with the needs of NPIC."

"NPIC will move into an era of near-total, computer-aided, interactive (voice, tool), and imagery exploitation with near-instantaneous dissemination."

"DoD will take charge of NPIC and move it to a DoD building. NPIC will be smaller and you'll see a woman director after Leo's tenure."

"As long as NPIC remains 'The National Center,' I believe we will evolve into an even more diverse organization than we are today, with our major emphasis placed on economic, environmental, and military issues."

"There will be more of a focus on environmental and economic issues."

"It [NPIC] will be much smaller, due to downsizing and the world being less hostile."

"People will be dying to come here over the next few years. Because of the shrinking of the Poles and the movement of the icebergs, NPIC will probably become the keeper of ecological studies."

"Well, we won't be moving to West Virginia in that time! I think we will redirect intelligence issues to focus more on what was the USSR, not less because of the breakup. In terms of the workforce, women will gain the majority at NPIC by the next 30 years."

"I believe that NPIC will have moved from this building and that there will be a much more diverse workforce."

"I would like to think that there will be major changes at NPIC, but I really don't believe that much will change. Oh, we will most likely be using new computers and be exploiting everything in soft copy, but these are superficial changes. NPIC still will be involved with providing intelligence to policymakers much as we are today. The big bad bear may be a friend by then, but somebody else will step up to the challenge."

"We'll have a different workforce—a multicolored patchwork of employees and more minorities in upper management—as a result of the current multicultural push. The general workforce will become more 'enlightened,' intellectually, educationally, and racially. With the development of the waterfront, Building 213 is going to be the place in the Agency to work... all those five-star restaurants!"

"PEG management will change hands 30 times..."

"There will be more computerized equipment, and all the imagery will be on laser disk. The cans and flat imagery will no longer exist."

"We'll have had more building upgrades—15 new carpets in the main hall. We'll all be livin' in the wilds of West Virginia. We'll either still be fighting the Soviet Union or will have made them the 51st state, over the District! We still won't have any parking (even in West Virginia) and IEG will have reorganized 4,000 times!"

"I think we will become more mechanized and fewer people will be doing the work."

"We'll be out of this Building in 10 to 15 years. NPIC under DoD management will be more modest with a more limited charter than it has now."

"Hopefully, for the better."

"I think the changes will be dramatic in the technical arena, but in many other ways things will remain the same. Analysts will still be looking at imagery and will be resolving issues of vital importance to the nation, the same as they did 30 years ago."

"When you look at the changes over the last 30 years and factor in the recent dramatic geopolitical changes and technology explosion, it makes it difficult, if not impossible, to predict change. However, some things will remain constant: [redacted] will be exploitation division chiefs and we will still be at Building 213."

50 Years Ago



Harbor View: This aerial shot of Pearl Harbor was taken on 26 November 1941, only days before the attack.

EARLY IN THE MORNING OF 7 DECEMBER 1941, an estimated 200 Japanese warplanes descended upon Pearl Harbor, Hawaii, attacking the US Pacific Fleet. When the attack was over, more than 2,300 lives had been lost. The devastating raid traumatized the nation, and, in the words of Japanese General Tojo, "awakened the great sleeping

giant." On 8 December, the US declared war on Japan.

"Pearl Harbor day" truly did live on in infamy. When President Dwight D. Eisenhower took office, he expressed grave concern that "gaps" in intelligence estimates could leave the United States vulnerable again. And, based on his World War II expe-

riences, he professed the belief that aerial reconnaissance could serve as a valuable source of warning against surprise attack. His conviction in the value of photointelligence led the CIA to establish a Photo Intelligence Division, the predecessor to the modern-day NPIC.

The rest, as they say, is history. □

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